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## INSTALLATION INSTRUCTIONS

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# Remote Inner Fuel Tank Leak Alarm Kits PA-276801, PA-276802, PA-276801-SD, and PA-276802-SD For Standby Generator Sets with Double-Wall Subbase Fuel Tanks

These kits provide for both audible and visual alarm from a location remote from the generator set if a leak is detected in the inner fuel tank of double-wall subbase fuel tanks. See Figure 1. If the inner tank is leaking, a sensor installed in the outer tank sends an electrical signal to the alarm plate when the sensor becomes immersed in the fuel collecting in the outer tank. If a leak is detected, the alarm horn will sound and the fault lamp will light. The alarm horn is quieted by moving the alarm switch to the SILENCE position; the alarm lamp remains lit until the fault is corrected. (See "Resetting" section following.) To properly monitor the condition of the generator, the alarm plate assembly should be mounted in a location readily observable by operating personnel at a normal work station.

The kits are available in 12-volt and 24-volt configurations.

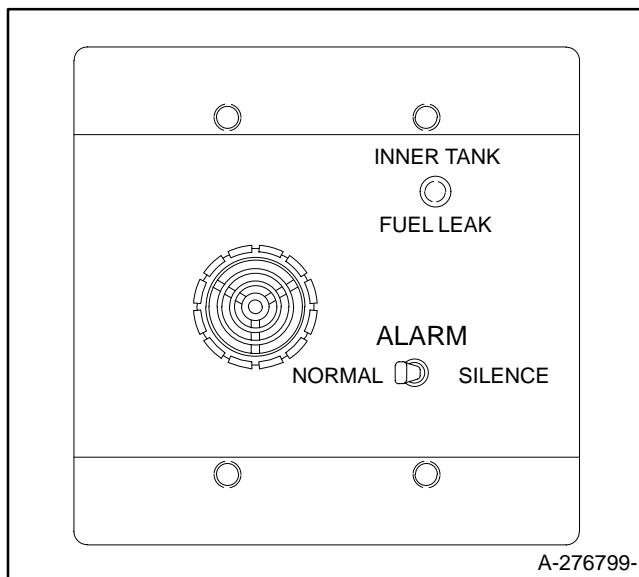


Figure 1. Alarm Panel



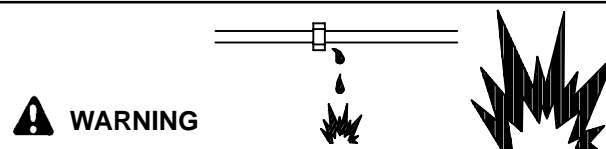
### ⚠ WARNING

#### Accidental starting.

#### Can cause severe injury or death.

Disconnect battery cables before working on generator set (negative lead first and reconnect it last).

**Accidental starting can cause severe injury or death.** Turn generator master switch to OFF position, disconnect power to battery charger, and remove battery cables (remove negative lead first and reconnect it last) to disable generator set before working on any equipment connected to generator. The generator set can be started by automatic transfer switch or remote start/stop switch unless these precautions are followed.



### ⚠ WARNING

#### Explosive fuel vapors.

#### Can cause severe injury or death.

Use extreme care when handling, storing, and using fuels.

**Explosive fuel vapors can cause severe injury or death.** Storing gasoline and other volatile fuels in day or subbase fuel tanks can cause an explosion. Store only diesel fuel in day or subbase fuel tanks.

**Explosive fuel vapors can cause severe injury or death.** All fuels are highly explosive in a vapor state. Use extreme care when handling, storing, and using fuels. Store fuel in a well-ventilated area away from spark-producing equipment and out of the reach of children. Never add fuel to the tank while the engine is running since spilled fuel may ignite on contact with hot parts or from ignition spark. Do not smoke or permit flame or spark to occur near potential sources of spilled fuel or fuel vapors. Keep fuel lines and connections tight and in good condition—don't replace flexible fuel lines with rigid lines. Flexible sections are used to avoid breakage due to vibration. Should any fuel leakage, fuel accumulation, or electrical sparks be noted, **DO NOT OPERATE GENERATOR SET.** Have systems repaired before resuming generator operation.

#### NOTE

Applicable local, state, and national electrical codes must be observed when installing tank leak alarm kit.

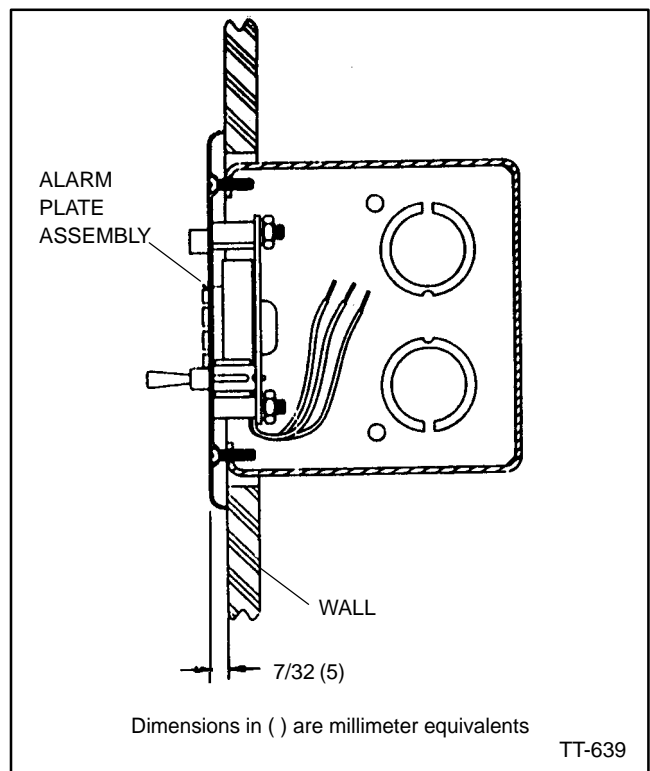
## INSTALLATION

1. Move generator master switch to OFF/RESET position. Disconnect generator set battery, negative lead first.
2. Mount a two-gang electrical box (not supplied) in the location selected for the alarm plate assembly (A-276799 and A-276799-SD). The electrical box should be mounted flush with the surrounding wall surface (see Figure 2).
3. Cut three lengths of 18-gauge stranded wire (customer-provided) long enough to connect alarm panel to detector and alarm power harnesses. (Use of color-coded wire is recommended for easy identification.) Be sure leads are long enough to allow routing through walls and duct work and around obstructions. Route wires to generator set junction box.

#### NOTE

The alarm panel may be located as far as 1000 ft. (305 m) away from the generator set. Depending on the application the following wire sizes are recommended:

- 1-100 ft. (1-30 m): 18 gauge.
- 101-900 ft. (31-274 m): 14 gauge.
- 901-1000 ft. (275-305 m): 10 gauge.



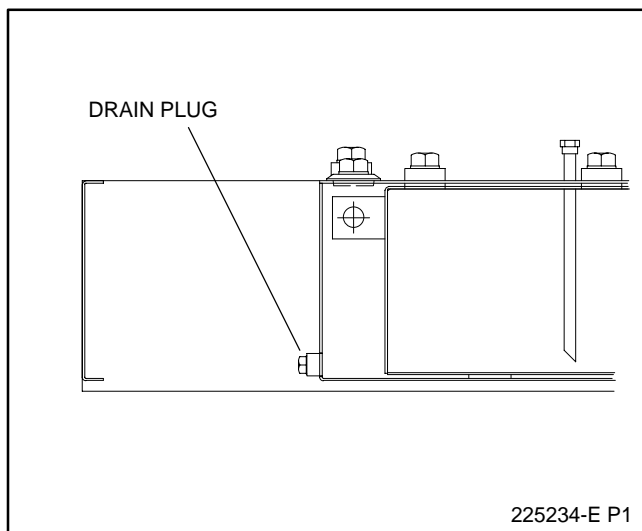
**Figure 2. Electrical Box Mounting**

4. Strip one end of each lead and connect to alarm panel leads N (black), 64 (white), and 42B (red). Secure wire connections with insulink terminals (X-367-3). For distances over 100 ft. (30 m) and/or wire gauges over 18 gauge, connectors must be customer-provided.
5. Attach alarm plate to electrical box with four machine screws (292828).
6. Install leak alarm sensor assembly (A-276795—12 volt, A-276796—24 volt) in place of outer fuel tank drain plug (see Figure 3).

#### NOTE

Use pipe sealant on all threaded connections to prevent leakage.

7. Connect detector harness (276793—12 volt, 276794—24 volt) to 4-pin connector (P50) of sensor assembly. Route harness along generator skid rail into junction box, and secure with four cable ties (X-468-2). Locate cable ties where necessary (see Figure 4).



**Figure 3. Subbase Fuel Tank**

8. Install alarm power harness (276791—12 volt, 276792—24 volt). Connect lead with fusible link to battery positive at starter solenoid. Attach appropriate size terminal (X-283-4, -5, -6 or -32) to remaining lead as application requires. Connect lead to battery negative at starter solenoid. Route harness along generator skid rail into junction box and secure with three cable ties (X-468-2). Locate cable ties where necessary.

**NOTE**

Certain applications may require alternate hookup method (see Figure 4).

9. Tie detector and alarm power harnesses together with one cable tie (X-468-2). Position cable tie approximately 1 in. (2.54 cm) from end of sleeving.
10. Strip the end of lead 64 (white) from the alarm plate assembly and connect to lead 64 (blue) from

detector harness. Secure wire connection with insulink terminal (X-367-3).

11. Strip the end of lead N (black) from alarm plate assembly and connect to lead N (black) from detector and alarm power harnesses. Secure wire connections with insulink terminal (X-367-1). Repeat procedure for lead 42B (red).

**NOTE**

For distances over 100 ft. (30 m) and/or wire gauges over 18 gauge, connectors must be customer-provided.

12. Reconnect the battery cables, negative lead last. Move controller master switch to the AUTO position for start-up by remote transfer switch or remote start/stop switch.

## RESETTING

Use the following procedure to reset the alarm after a fault alarm.

1. Move alarm switch to the SILENCE position to stop alarm horn. Lamp will remain lit.
2. Disconnect generator set from load with line circuit breaker or automatic transfer switch.
3. Repair or replace the inner fuel tank.
4. Move generator master switch to the OFF/RESET position and then to the RUN position for start-up. Alarm horn sounds and lamp goes out.
5. Reconnect generator to load via line circuit breaker or automatic transfer switch.
6. Move generator master switch to the AUTO position for start-up by remote transfer switch or remote start/stop switch. Move alarm switch to the NORMAL position.



| Parts List  |  |                 |              |              |           |              |
|---|--|-----------------|--------------|--------------|-----------|--------------|
| Kits: PA-276801, PA-276801-SD,<br>PA-276802, and PA-276802-SD |  |                 | Unique Parts |              |           |              |
| Qty.  | Description                            | Common<br>Parts | PA-276801    | PA-276801-SD | PA-276802 | PA-276802-SD |
| 1   | Sensor Assembly,<br>12 volt leak alarm |                 | A-276795     | A-276795     |           |              |
| 1   | Sensor Assembly,<br>24 volt leak alarm |                 |              |              | A-276796  | A-276796     |
| 1   | Plate Assembly, alarm                  |                 | A-276799     |              | A-276799  |              |
| 1   | Plate Assembly, alarm                  |                 |              | A-276799-SD  |           | A-276799-SD  |
| 1   | Insulug Terminal, 1/2                  | X-283-32        |              |              |           |              |
| 1   | Insulug Terminal, 1/4                  | X-283-4         |              |              |           |              |
| 1   | Insulug Terminal, 5/16                 | X-283-5         |              |              |           |              |
| 1   | Insulug Terminal, 3/8                  | X-283-6         |              |              |           |              |
| 2   | Insulink Terminal,<br>14 to 16 gauge   | X-367-1         |              |              |           |              |
| 4   | Insulink Terminal,<br>18 to 22 gauge   | X-367-3         |              |              |           |              |
| 8   | Tie, cable                             | X-468-2         |              |              |           |              |
| 1   | Harness,<br>12 volt alarm power        |                 | 276791       | 276791       |           |              |
| 1   | Harness,<br>24 volt alarm power        |                 |              |              | 276792    | 276792       |
| 1   | Harness,<br>12 volt detector           |                 | 276793       | 276793       |           |              |
| 1   | Harness,<br>24 volt detector           |                 |              |              | 276794    | 276794       |
| 4   | Screw, mounting                        | 292828          |              |              |           |              |